User Manual

(in keeping with DIN EN 62079:2001)

Designation:

EV Charge box

Do read through the user manual before any mounting, wiring and start-up. This will protect you and avoid any damage to your appliance!

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Information

We reserve the right to undertake modifications promoting progress in technical engineering development.
TeleWell oy cannot ensure that all the included requirements, instructions and standards are not subject to the industrial property rights of third parties.

2. Preface

Publisher: TeleWell oy

In preparing these operating instructions, we have endeavoured to the best of our abilities to ensure the precision and completeness of the information contained herein. Please let us know about any suggestions you would make to improving the user manual:

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Finland

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3. Identification

3.1. Product brand and type designation

Manufacturer:	TeleWell oy
Item specification:	EV Charge box

3.2. Conformity statement with the product standards

The EV Charge box bears the CE symbol and fulfills the RoHS directive.
TeleWell oy is in possession of the corresponding statements of conformity.

3.3. Safety instructions

In general

- Attentively read through the user manual before starting the EV Charge box. It includes vital information for the installation, safety and use of the appliance. This will protect you and avoid any damage to the appliance.

- The operator must respect the national regulations in force in his country on operation, functional test, repairs and maintenance of electrical equipment.

- Keep this manual and pass it on to any subsequent owner!

- The appliance is only to be wired to the power supply grid by an electrician who is precisely aware of the customary regulations prevailing in the country and the additional provisions of the local power supply companies and who adheres to them with all due diligence.

- Incorrect assembly and wiring work or repairs may result in considerable hazards for the user - hazards which the manufacturer is not liable for.

- Do not carry out the wiring under rainy, snowy or icy conditions.

- Always take along a mobile telephone in case of emergencies.

Use as originally intended

- Those who are not in a position - owing to their physical, sensory or mental abilities or their lack of experience or knowledge - to reliably operate the EV Charge box must not use it without supervision or instruction from a person who is responsible.

- Never open the housing! Any contact with energized components and changes to the electrical and mechanical set-up put you at risk and possibly result in interruptions to the functioning of the appliance. Only qualified electricians are to open the housing!

- Please make sure that children or unauthorized persons have no access to the EV Charge box. They should not be allowed to remain near the EV Charge box for safety reasons.

- Only operate the product between -25°C and +40°C.

- The EV Charge box (housing) is, in fact, weather-proof (IP54).
  However, in view of the fact that moisture might get into the socket, it should be set up and operated at a dry location. Therefore protect your appliance from wetness, thick dust and corrosive liquids and vapours.

- A specialist is to be contacted should there be any damage to the EV Charge box and its components.

- There is a risk to life and limb on the EV Charge box not being correctly used.

- The EV Charge box should not be used as a shelf, seat or for leaning on – risk of it being wrecked!

- Do not mount the EV Charge box directly next to sources of heat.

Technical safety

- Mounting, wiring and repair work is only to be undertaken by qualified specialists who on account of their training, knowledge and track record as well as their knowledge of the relevant standards and conditions are in a position to carry out work on electrical systems and independently detect and avoid possible hazards.

- Check the EV Charge box before mounting as to any visible signs of damage. Never start up an appliance which is damaged. A damaged EV Charge box could jeopardize your own safety!

- The electrical safety of the EV Charge box is only ensured when it is connected to a protective conductor system which is wired as prescribed. It is essential that this basic safety requirement is in place. If in doubt about the service wiring, have it checked by an electrician. The manufacturer is not liable for damage caused by an interrupted protective conductor or by the absence of a protective conductor (e.g. electric shock).

- It is absolutely vital that the EV Charge box connection data comply with that of the power supply grid.

- In the service wiring, circuit-breakers and residual circuit-breakers must be arranged upstream of the EV Charge box.

The manufacturer assumes no liability for damage arising within the warranty period as caused by:

- Incorrect operation
- Faulty set-up
- False or incorrect connection
- which arise from unauthorized modifications or non-observance of his recommendations or which are derived
- from using accessories / replacement parts which the manufacturer has neither recommended nor supplied.

4. Product Specification

4.1. Scope of supply

| *Technical features*

L. Housing

M. Cover

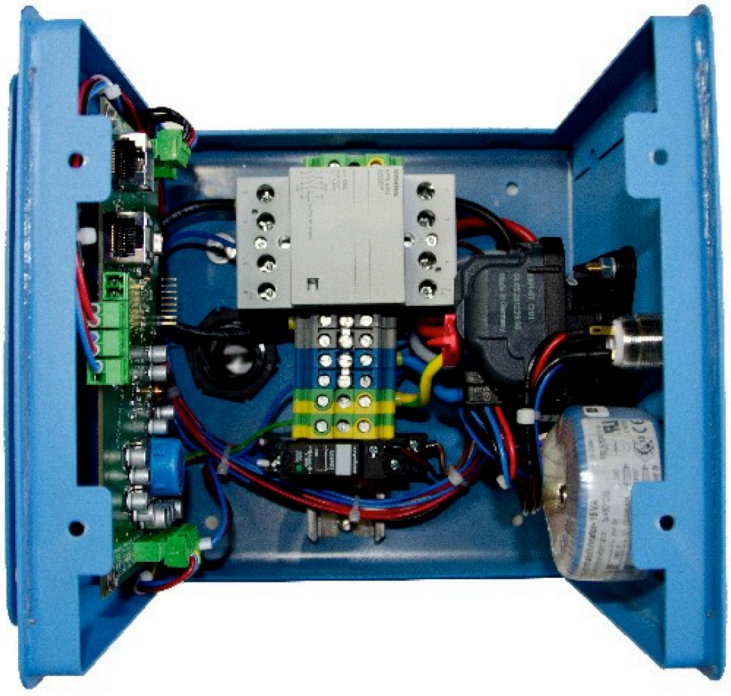
N. Push-button

O. Key switch (underside)

P. Type 2 socket

Q. Wall holder

| *Interior equipment*



R. Contactor (40 A)

S. Screw-type terminals

T. Transformer

U. Relays

V. Control electronics system

4.2. Constructional design

Housing dimensions:	200 x 200 x 200 mm (H x B x D)
Weight:	approx. 6 kg
Material:	Stainless steel 1.4301
Material thickness:	1.5 mm
Enclosure type:	IP54

4.3. Functions

The EV Charge box is for charging electric vehicles.
Vehicles can be charged with a compliant charging cable through the Type 2 socket. Charging begins automatically as soon as the cable is connected to vehicle and EV Charge box and the vehicle is ready for charging.
Charging can be interrupted at any time by pressing the push-button, i.e. it can also be done by third parties. That is why the EV Charge box is provided for the private and semi-public area.
The EV Charge box is fitted either on the wall holder (included in the scope of supply) or optionally at a pillar which can be obtained as an accessory.

Special functions

Thanks to a key switch on the underside of the housing, the EV Charge box can be locked to prevent any unauthorized use.
The plug is interlocked during charging with its interlocking deactivated on push-button termination or in the case of a power failure.
Water getting into the socket is directed outwards through an integrated water draining hose. This stops any standing water from freezing inside the socket and causing damage at low temperatures.

| *Scope for charging*

The following illustrates the inter-relationship between the charging current and the charging time:

	Type 2 socket
Charging current	max. 32 A
Voltage	230/400 V
Output rating	max. 22 kW
Charging mode	3
Vehicle communication	Yes
Charging time*	approx. 1 h

* 22 kWh battery

| ***Applications***

e.g. residence, place of work and all other private and semi-public areas

4.4. Power supply

Refer to Chapter 6 on this!

Power supply: Three-phase current max. 32 A, 400 V (max. 22 kW)

It is absolutely vital that the EV Charge box connection data comply with that of the power supply grid.

RCD (I=30 mA) and the corresponding circuit-breaker must be connected on line side when effecting the connection!

4.5. Energy consumption

| **Power supply at 32 A and 400 V (three-phase current): Max. 22 kWh**
MAIN FUSE has to be 3 x 53A

| **Power supply at 16 A and 400 V (three-phase current): Max. 11 kWh**
MAIN FUSE has to be 3 x 25 A

4.6. Protection classes

| Protection Class I

4.7. Surrounding conditions

| Transport & storage temperature range: -25°C to +40°C
Outdoor installation: Arrange safe location, recommendation is electrical heater or infrared heater in the box and add warning for high electrical shock / risk

| Permanent operating temperature range: -25°C to +40°C

| Place for mounting:
Recommendation: Covered mounting position (garages or car-ports)

- The place and type of mounting need to be appropriate for the weight and dimensions.
- Mounting location on a firm base
- The mounting location must be accessible at all times.

4.8. Safety information

Mounting and electrical connection only to be undertaken by qualified specialists!

- The appliance is only to be wired to the power supply grid by a qualified electrician who is precisely aware of the customary regulations prevailing in the country and the additional provisions of the local power supply companies and who adheres to them with all due diligence.

- Check the EV Charge box before mounting as to any visible signs of damage. Never start up an appliance which is damaged. A damaged EV Charge box could jeopardize your own safety!

5. Preparation of Product for Use

5.1. Transport and storage

| Secure the packaged EV Charge box during transport to prevent any damage.
| Only store the EV Charge box at dry locations.
| Transport & storage temperature range: -25°C to +40°C

5.2. Unpacking

| Check the EV Charge box as to any visible damage once it is unpacked. Never start up an appliance which is damaged. A damaged EV Charge box could jeopardize your own safety!

| Check to see that all accessories and other delivered parts are present.

| As it is a potential hazard, keep the packaging material away from children. This packaging material can be re-used as a protection from possible transportation damage if the appliance is again to be packed.

5.3. Reliable disposal of the packaging material

The packaging is 100% recyclable and has the recycling label on it. Adhere to the local ordinances which are in force regarding packaging material disposal.

5.4. Preparatory work before wiring

The appliance is only to be wired in a non-energized state to the power supply grid by a qualified electrician who is precisely aware of the customary regulations prevailing in the country and of the additional provisions of the local power supply companies. He adheres to them with all due diligence.

To avoid any static discharges, undertake earthing before touching a component!

Follow the 5 safety rules in acc. with DIN VDE 0105:

- Disconnect
- Secure the appliance from being inadvertently switched on again
- Establish absence of voltage at all the poles
- Earth and short-circuit
- Cover or cordon off any adjacent energized parts

These five safety rules should be applied in the order as given above before any work proceeds on electrical systems. They are cancelled in the reverse order once the work is over.

5.5. Mounting and wiring

Mounting and electrical connection only to be undertaken by qualified specialists!

1. **Mounting the wall holder (included in the scope of supply)**
   - Mounting is prescribed for a stable concrete wall.
   - If possible, undertake mounting near to an electrical connection.
   - Mounting height: bottom edge approx. 100 cm above the floor
   - Fixing with 3 plugs and 3 screws

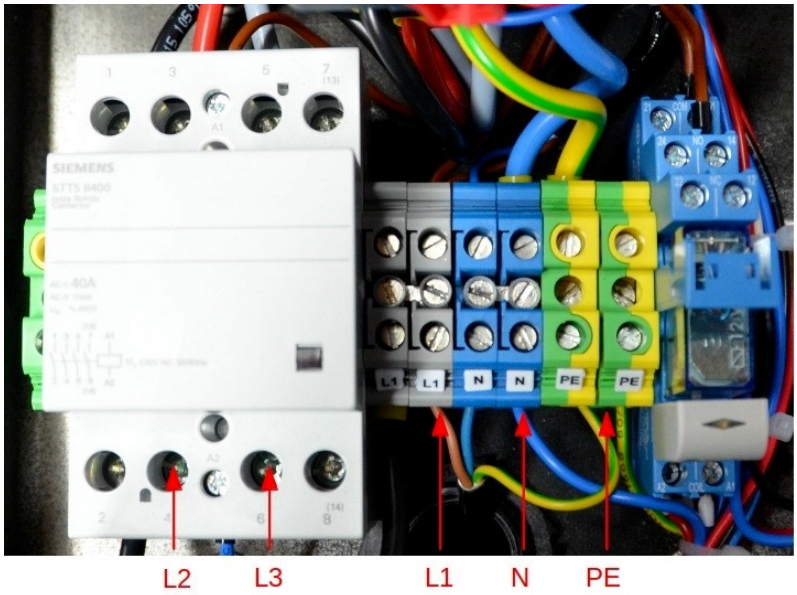
2. **Secure EV Charge box in the wall holder**
   There are 4 holes of the same size on the underside of the EV Charge box for pillar mounting purposes. Two of them can also be used for the wall holder.

3. **Fix EV Charge box with wall holder**
   Secure the stud bolts of the wall holder with 2 nuts.

4. **Remove cover from housing**
   Remove the 4 safety screws on the underside of the EV Charge box and then - in an upward direction - slowly take off the cover.

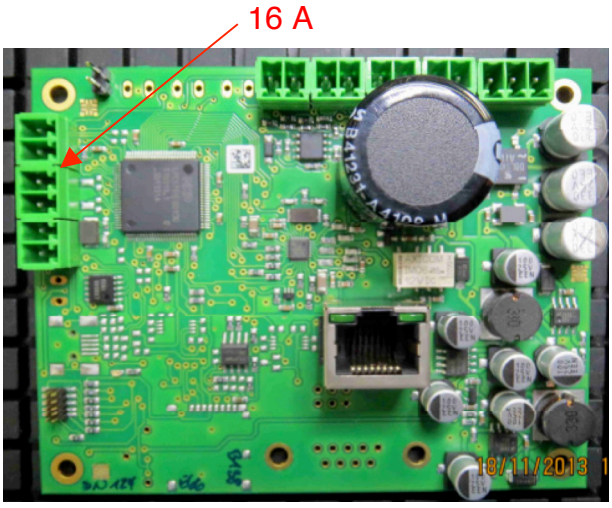
5. Electrical connection

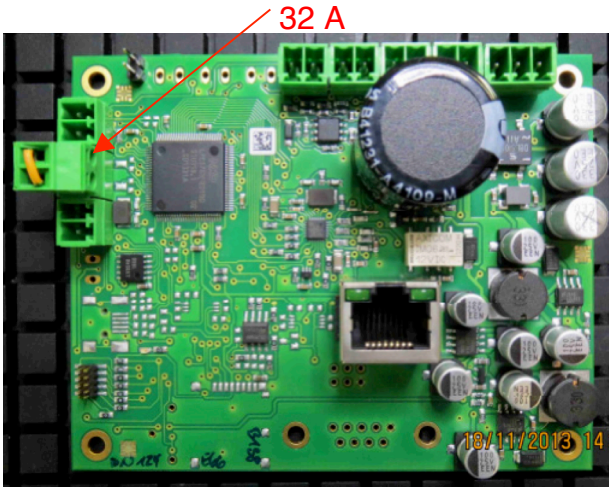
- 1-phase: connecting the supply lead to the screw-type terminals (L1 to terminal L1, N to terminal N and PE to terminal PE)
- 3-phase: connecting supply leads L2 and L3 to contactor (L2 to connection 4 and L3 to connection 6)
- Core cross-section depending on installing method and fusing



6. Setting the charging current

The bridged box header permits the maximum charging current to be set between 16 A and 32 A.





Settings only by qualified specialists! Accordingly adjust the fusing provided by others if there is any change!

7. **Examine all the connections**

8. **Close cover**

9. **Checking**
   - Again ensure that everything has been properly closed and bolted.
   - Remove tool and auxiliary devices.
   - Firstly cancel short-circuiting and earthing at the place of work and then at the other places.
   - Only cancel protective steps taken at the switches after receiving a clearance notification from the places of work.

6. Operating Instructions

6.1. Safety instructions

Those who are not in a position - owing to their physical, sensory or mental abilities or their lack of experience or knowledge - to reliably operate the EV Charge box must not use it without supervision or instruction from a person who is responsible.

Supervise any children who are in the vicinity of the EV Charge box. Never let children play with the appliance.

6.2. User operation

Initial state:
The vehicle is connected to the charging cable. Push-button illumination active.

Method of proceeding:

Connect the charging cable to the EV Charge box socket.
The plug is mechanically interlocked.
Charging begins automatically as soon as the vehicle is ready for charging.
Push-button flashing

Press the push-button to end charging.
Plug interlocking is deactivated.
The push-button illumination is active.

Remove the plug from the EV Charge box socket.

6.3. Protection of people

DO NOTE

- Those who are not in a position - owing to their physical, sensory or mental abilities or their lack of experience or knowledge - to reliably operate the EV Charge box must not use it without supervision or instruction from a person who is responsible.

- Please make sure that children or unauthorized persons have no access to the EV Charge box. They should not be allowed to remain near the EV Charge box for safety reasons.

- Mounting, wiring and repair work is only to be carried out by qualified specialists.

7. Corrective Maintenance and Cleaning

7.1. Corrective maintenance and cleaning

Cleaning:
Clean the appliance with a soft, slightly moistened or anti-static cloth.
Do not use any cleaning agents or chemical substances for cleaning.

Maintenance:
No maintenance is required on the appliance. Any repairs arising must be carried out by the manufacturer.

7.2. Malfunctions and faults

Turn to the manufacturer should one of the solutions listed not solve the problem.

| Power failure / Malfunctions
→ The EV Charge box automatically detects malfunctions and reverts to the initial state once the malfunction is rectified.

| The EV Charge box does not charge.
→ Depress the RCD in your service wiring to re-start.

| Mechanical components do not return to the initial state.
→ Please turn to the manufacturer.

| Obvious damage to the EV Charge box
→ Do call up a specialist and refrain from using the EV Charge box.

8. Service

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9. Placing Out of Service

Disposing of used appliances:

The symbol shown makes it clear that electrical products are not to be disposed of as part of the usual domestic refuse.

The appliance is provided with a branding in compliance with the requirements of the European 2002/96/EC directive on used electrical and electronic equipment (WEEE). By having this appliance disposed of under a separate waste collection system, you make a positive contribution to the general health of the population and environmental protection. In unsorted municipal waste, an appliance like this could have negative consequences as result of inappropriate disposal.
The symbol of a crossed-out waste bin is shown either on the product or in the attached product documentation.
It points to the fact that disposal as part of household refuse is not permitted. Do dispose of this product at a recycling yard with a separate collection for electrical and electronic equipment.
Disposal must be carried out in keeping with the local conditions for the removal of refuse. Please turn either to the departments responsible of your local authority, to the local recycling yard for household refuse or to the trader from whom you purchased the appliance for more information on handling, recycling and further processing of this product.

The EV Charge box consists of re-usable materials. Electrical and electronic products - including cables, plugs and accessories - must be separately disposed of in keeping with the local provisions.

EC Declaration of Conformity

in keeping with the EC Low Voltage Directive
2006/95/EC of 12 December 2006

We hereby declare with sole responsibility that the product specified below in its concept and design type and in the version which we have brought onto the market complies with the basic safety and health requirements of EC Directive 2006/95/RG. This statement loses its validity given that a modification or a conversion takes place which we have not agreed to.

Manufacturer: TeleWell Oy

Product Designation: EV Charge box

Conformity with other directives/requirements as applying to the product is on hand:

- EMC Directive (2004/108/EG) of 15 December 2004
- RoHS Directive (2011/65/EU) of 8 June

2011 Associated harmonized standards in

particular:

DIN EN 61851-1: Electric vehicle conductive charging system - Part 1:General requirements

DIN EN 61851-22: Electrical equipment of electric road vehicles - Electric vehicles conductive charging system - Part 2-2: AC electric vehicle charging station

DIN EN 60529: Degrees of protection provided by enclosures (IP code)

DIN EN 60950-1: Information technology equipment - Safety - Part 1:General requirements DIN EN 60664-1: Insulation coordination for equipment within low-voltage systems - Part 1:
Principles, requirements and tests

DIN EN 61439-1: Low-voltage switchgear and controlgear assemblies - Part 1:General rules DIN EN 61000-6-3: Electromagnetic compatibility (EMC) - Part 6-3:Generic standards -
Emission standard for residential, commercial and light-industrial environments

DIN EN 61000-6-1: Electromagnetic compatibility (EMC) - Part 6-1:Generic standards - Immunity for residential,commercial and light-industrial environments

DIN EN 61000-3-2: Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic
current emissions (equipment input current <= 16 A per phase)

Other associated standards and technical specifications:

DIN VDE 0100-410:	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock (IEC 60364-4-41:2005, modified)
DIN EN 61000-4-2:	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
DIN EN 61000-2-2:	Electromagnetic compatibility (EMC) - Part 2-2: Environment; Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems
DIN EN 61000-4-1:	Electromagnetic compatibility (EMC) - Part 4-1: Testing and measurement techniques - Overview of IEC 61000-4 series
DIN EN 61000-4-11:	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests
DIN EN 61000-4-4:	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transien/burst immunity test
DIN EN 61000-4-5:	Electromagnetic Compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
DIN EN 61000-4-3:	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
RoHS:	Supporting records in the product file

Year of CE designation issue: 2012

Place/Date: Järvenpää 30.11.2013

Name and position
of the person signing: CEO Mr Markku Aberg / TeleWell Oy